

DOCKET NO: 205040US0



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
NORIKO SUEHIRO, ET AL. : EXAMINER: RUDE, TIMOTHY L.
SERIAL NO: 09/813,988 :
FILED: MARCH 22, 2001 : GROUP ART UNIT: 2883
FOR: LIQUID CRYSTAL DISPLAY :
ELEMENT AND LIQUID CRYSTAL
DISPLAY APPARATUS

PRE-APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

In this case the Examiner fails to understand that even if it were proper to combine references as he asserts, the fact that in the invention devices the liquid crystal in interline portions remains in a focal conic state even in the face of pixel-changing voltage, or returns to a focal conic state after being changed to a planar state by application of pressure, are important benefits neither predicted nor expected from the combination of references that overcome any *prima facie* case. In this regard, the Examiner has taken the wrong view of obviousness, and continues to assert that because the combination of references allegedly produces the claimed device, any result, ability, or characteristic of the device is obvious. This viewpoint is not correct.

The Examiner's error is most clearly set out in the paragraph bridging pages 8 and 9 of the Official Action dated July 28, 2005. Here, the Examiner reasons that, by combining references as applied, the claimed liquid crystal display element results. While Applicants

disagree that the references used in the rejection are combinable, the more important point is that the Examiner is under the impression that his alleged *prima facie* case, and apparently any *prima facie* case, cannot be overcome based upon a property of the claimed device because, since the references allegedly teach the device, it teaches all inherent properties thereof.

Were this the law there would be very few patents. Luckily, however, this is not the state of the current law, and unappreciated, unknown, unpredictable benefits that appear in new combinations of old elements are sufficient to establish patentability, as here.

Even if it were true that the combination of Iwamatsu and Morokawa taught each and every limitation of the pending claims, and even if it were true that these references were combinable, the claims pending here are *still* patentable because neither reference (nor their combination) disclose or suggest that it could or would be possible to provide a liquid crystal display element containing a chiral-doped nematic liquid crystal wherein the liquid crystal in interline portions remained in a focal conic state in the face of pixel-changing voltage application. See Claim 1. Nor would it be possible to predict that chiral-doped nematic liquid crystal in interline portions could be returned to a focal conic state upon the application of a voltage after being changed into a planar state by, e.g., the application of pressure. See Claims 22 and 23. In this regard, there is nothing in either reference that would even hint at such characteristics or benefits, nor is there anything in either reference or their combination that would lead one of ordinary skill in the art to even guess that such benefits would be obtained. There simply is no discussion in either applied reference regarding a chiral nematic liquid crystal remaining in a focal conic state in an interline portion, or regarding the return to a focal conic state in an interline portion upon the application of a voltage after having been changed into a planar state by the application of pressure.¹

¹ See, e.g., Example 1 and Comparative Example 1, and Example 2.

One reason for this is that Morokawa does not even relate to chiral nematic liquid crystal displays. Rather, the reference relates to optical modulators using twisted nematic, super-twisted nematic and ferroelectric liquid crystals (Morokowa, Abstract, col. 8, lines 3-5, Col. 11, lines 48-50). Even if Morokawa is relied upon only for its description of pixilated liquid crystal displays, the reference still fails to disclose or suggest planar and focal conic states, or that the liquid crystal in interline portions remains in a focal conic state.

In this regard, the display states and properties claimed herein are not obvious from the mechanical assembly of a theoretical device based upon two pieces of prior art. If that were the law in the United States it would be impossible to obtain a patent on any assembly of existing parts regardless of the capabilities or benefits obtained, so long as the prior art suggested such an assembly: no *prima facie* case could be overcome. Obviousness could be treated as is anticipation; no in depth study, no consideration of the benefits provided by the assembly, etc.

Of course, this is not the case. The MPEP is quite clear regarding the presentation and reconsideration of a *prima facie* case in view of evidence of patentability such as the appearance of new and unpredicted characteristics and benefits, and this is exactly such a case. While the Examiner appears convinced that one of ordinary skill in the art would have built the device claimed herein, he is not correct to then conclude that any and all properties that flow from such a combination are inconsequential. In fact, the law of obviousness in the United States is built upon a completely different principle, and requires consideration of the invention *as a whole*, including the properties and benefits provided by the claimed combination.

In this case it is beyond question that neither reference applied against the claims, nor their combination, would allow one of ordinary skill in the art to predict or expect the properties described in the present claims with regard to the planar display state, the focal

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conic display state, or the unique characteristic described in Claims 1, 22 and 23 wherein the chiral nematic liquid crystal present in interline portions remains in a focal conic state or is able to be returned to a focal conic state upon the application of a voltage, after being changed into a planar state by, e.g., the application of pressure.

In view of this fundamental issue existing in the case, Applicants have taken advantage of the pre-appeal conference procedures in the hope that prosecution in this case can be materially advanced. If the Examiner is able to see allowable subject matter, or suggest another way that prosecution can be advanced, he is invited to telephone the undersigned.

Respectfully submitted,


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